



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/542,714

07/20/2005

Kazuhiro Haniya

052826

5776

38834

7590

03/31/2009

WESTERMAN, HATTORI, DANIELS & ADRIAN, LLP
1250 CONNECTICUT AVENUE, NW
SUITE 700
WASHINGTON, DC 20036

EXAMINER

PILKINGTON, JAMES

ART UNIT

PAPER NUMBER

3656

MAIL DATE

DELIVERY MODE

03/31/2009

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/542,714	Applicant(s) HANIYA, KAZUHIRO	
	Examiner JAMES PILKINGTON	Art Unit 3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 and 6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 and 6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

The Applicant's arguments filed after final have been found persuasive and the finality of the previous Office action is hereby withdrawn. Applicant's reply after final filed on 3/17/09 has been entered.

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1 and 6 are rejected under 35 U.S.C. 102(b) as being anticipated by Mauletti, USP 5,606,235.

Re clm 1, Mauletti discloses a reduction device of an industrial robot comprising a robot base (8) installed in an XY plane of XYZ orthogonal coordinates, a rotating barrel portion (20) rotatably attached to the robot base (8), and a lower arm (7) of which one end is axially supported by the rotating barrel portion (upright 9 of 20) via a front/rear shaft (35), pivoting back and forth to the robot base (8) around the front/rear shaft (35), a large gear (31) fixed to the robot base (8) and a small gear (30) meshing with the large gear (31) and axially supported in the rotating barrel portion (20) wherein the rotational center of the small gear (30) is arranged within an angular range from the rotational center of the large gear (31), said angular range being plus or minus 35 degrees from a reference plane, and wherein said reference plane is defined as a plane parallel to a lower arm rotational plane (see character 2 in Figure 1), orthogonal to the

Art Unit: 3656

front/rear shaft (35, or at 37 in Figure 1), and including a rotational axis of the large gear (the gear is within 20, the plane extends in the same direction as the sheet which Figure 2 is printed and lower reduction mechanism is arranged the same as that shown by cut plane IV in Figures 3 or Figure 4 which shows an angular arrangement of 0 degrees to the plane).

Re clm 6, Mauletti discloses that a center portion of the large gear includes a communication hole (opening in the middle of the gear).

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Mauletti, USP 5,606,235.

Mauletti discloses a reduction device of an industrial robot comprising a robot base (8) installed in an XY plane of XYZ orthogonal coordinates, a rotating barrel portion (20) rotatably attached to the robot base (8), and a lower arm (7) of which one end is axially supported by the rotating barrel portion (upright 9 of 20) via a front/rear shaft (35), pivoting back and forth to the robot base (8) around the front/rear shaft (35), a large gear (31) fixed to the robot base (8) and a small gear (30) meshing with the large gear (31) and axially supported in the rotating barrel portion (20) wherein the

Art Unit: 3656

rotational center of the small gear (30) is arranged within an angular range from the rotational center of the large gear (31), said angular range being plus or minus 35 degrees from a reference plane, and wherein said reference plane is defined as a plane parallel to a lower arm rotational plane (see character 2 in Figure 1), orthogonal to the front/rear shaft (35, or at 37 in Figure 1), and including a rotational axis of the large gear (the gear is within 20, the plane extends in the same direction as the sheet which Figure 2 is printed and lower reduction mechanism is arranged the same as that shown by cut plane IV in Figures 3 or Figure 4 which shows an angular arrangement of 0 degrees to the plane).

Mauletti does not disclose that it is the small gear that is fixed to the base that the large gear is axially supported by the rotating barrel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Mauletti and change the location of the small and large gear, since rearranging (switching the large for the small gear) parts of an invention involves only routine skill in the art and would yield the predictable result of reducing the speed of the motor and driving the robot in the same manner.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Terada, USP 6,250,174.

Re clm 3, Terada discloses a reduction device of an industrial robot comprising a robot base (10-AM1) installed in an XY plane of XYZ orthogonal coordinates, a rotating barrel portion (holding 32 and 42) rotatably attached to the robot base (10-AM1) to

Art Unit: 3656

rotate around a rotating shaft (rotates about character 31), a lower arm (AM2) of which one end is axially supported by the rotating barrel portion (via 35), an upper arm (60) of which one end is axially supported by the other end of the lower arm (AM2), a large gear (attached to 41) fixed to the lower arm (AM2), a small gear (attached to motor 42) meshing with the large gear and axially supported in the rotating barrel portion (holding 32 and 42) wherein the rotational center of the small gear (attached to 42) is arranged within an angular range from the rotational center of the large gear and a reference plane is defined as a plane parallel to a rotating barrel portion rotational plane (extending vertical and into the page in Figure 2a), orthogonal to the rotating shaft (at 31), and including a rotational axis of the large gear (about hollow portion 43).

Terada does not disclose that the angular range is plus or minus 35 degrees.

It would have been obvious to one having ordinary skill in the art at the time the invention was made that the location of the rotational center of the small gear and the motor along the circumferential surface of the large gear could be rearranged within the range of 0 to 360 degrees, within the possible configurations of the rotational center of the small gear there will be arrangements which are plus or minus 35 degrees from the plane which extends vertically and into the page of Figure 2a at shaft 43. Such a rearranging of the location of the drive motor and small gear only involves routine skill in the art and would yield the predictable result of driving the lower arm part.

Response to Arguments

Art Unit: 3656

6. Applicant's arguments with respect to claim 1-3 and 6 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL (corresponding to the amendment filed 10/10/08)**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JAMES PILKINGTON whose telephone number is (571)272-5052. The examiner can normally be reached on Monday-Friday 8:00AM-4:00PM.

Art Unit: 3656

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on (571) 272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/JAMES PILKINGTON/
Examiner, Art Unit 3656
3/25/09

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3656